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FINAL REPORT OF SIXTH INTERNATIONAL LIQUID CRYSTAL CONFERENCE

Grant No. AFOSR 76-3016

June 1977

The Sixth International Liquid Crystal Conference was held at Kent State University, August 23-27, 1976. Two-hundred and seventy-one papers were on the program and the Conference was attended by three hundred and thirty participants representing twenty different countries. The program included seven invited lectures in addition to the contributed papers. Poster sessions were initiated at this Conference and in conjunction with oral sessions made it possible to successfully present the large number of papers included in the program. The poster format in general was well received and generated extensive discussions. We expect that the use of poster sessions will be an increasingly important aspect of future conferences.

The subject categories for contributed papers include the following topics, with the number of papers in each category listed in parentheses.

- A. Macroscopic Theories of the Liquid Crystalline State (13)
- B. Phase Transitions and Polymorphism in Liquid Crystals (39)
 - 1. Experimental (28)
 - 2. Theoretical (11)
- C. Structure and Order of Liquid Crystal Phases (44)
 - 1. Experimental (34)
 - 2. Theoretical (10)
- D. Molecular Dynamics of Liquid Crystals (24)
 - 1. Experimental (21)
 - 2. Theoretical (3)
- E. Lyotropic Mesophases (12)
- F. Biological and Medical Aspects of Liquid Crystallinity (15)
- G. Liquid Crystalline Aspects of Pitches and Polymers (4)

H. Relationships Between Molecular Structure, Liquid Crystallinity and Physical Properties	(14)
I. Synthesis and Properties of Mesogens	(21)
J. Mechanical Properties of Liquid Crystals	(32)
K. Applications of Liquid Crystals	(27)
L. Liquid Crystals as Solvents	(4)
M. Crystal Structures of Mesogenic Compounds	(4)
N. Physical Properties of Liquid Crystals, Not Covered by the Other Categories	(11)

The assignment of the papers to the various categories was mainly based on the author's preference. The largest number of papers was in the area of "Structure and Order of Liquid Crystalline Phases", with "Phase Transitions and Polymorphism in Liquid Crystals", "Mechanical Properties of Liquid Crystals", and "Applications of Liquid Crystals" following closely. "Biological and Medical Aspects of Liquid Crystallinity" and "Lyotropic Mesophases" together represented ten percent of the papers. Multicomponent liquid crystalline systems (i.e. lipid-water, sphingomyelin-cholesterol) were emphasized in the papers covering the field of liquid crystals in living systems. In lyotropic systems of inanimate materials emulsions for controlled drug release and bilayer studies were represented.

The number of papers dealing with "Synthesis and Properties of Mesogens" were about the same as for "Applications of Liquid Crystals" and the interplay of the Oral and Poster sessions fostered a good deal of discussion.

Proceedings of the Conference will be published in MOLECULAR CRYSTALS AND LIQUID CRYSTALS.

William E. Bacon

Adriaan de Vries

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